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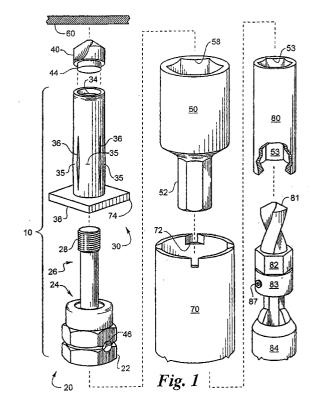
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- (71) Applicant: ILLINOIS TOOL WORKS INC.
 Glenview, Cook County, Illinois 60025 (US)
- (72) Inventor: Bodin, Richard G. St. Paul, Minnesota 55106 (US)
- (74) Representative: Bloch, Gérard et al2, square de l'Avenue du Bois75116 Paris (FR)

(54) Expandable anchor and method of installing it

The anchor is for installation in supports (60) for hanging pipes, wires or other articles in ceilings and is shaped for a socket to drive the device for an easy installation process. The device comprises a collapsible anchoring portion (35) having radially expanding anchoring strips, which will not pull out of a hole drilled in a support. A drill (40) drills a hole in a support and an expandable anchor (30) is inserted through the hole. Threads (34) internal to the expandable anchor cooperate with threads on a screw (20) inserted therein to collapse the expandable anchor (30), providing anchoring strips over the hole such that the expandable anchor cannot be pulled out of the hole. A threaded portion (22) of the base (24) of the screw (20) is suitable for attaching the article to be hung. The base may be a swivel head type.





EUROPEAN SEARCH REPORT

Application Number EP 03 29 0849

Category	Citation of document with indication of relevant passages	ation, where appropriate,		evant laim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
Y	US 5 519 351 A (MATSU 21 May 1996 (1996-05- * abstract * * column 3, line 18 - * figures *	MOTO HIROSHI) 21)	12,1	14,	F16B19/10 F16B13/00 F16B29/00 F16B13/06 F16B35/06 B25B27/00
Y	WO 94 10400 A (THORSM 11 May 1994 (1994-05-		12,1	,8,9, 14, 17,19	B25B13/48 F16L3/00
	* abstract * * page 4, line 23 - l * page 5, line 25 - l * figures *	ine 29 * ine 28 *			
A	DE 17 75 919 A (LANGE 4 November 1971 (1971 * page 5 - page 6; fi	-11-04)	1		
A	US 2 503 189 A (BIBA 4 April 1950 (1950-04 * column 2, line 40 -	-04)	* 5,6		TECHNICAL FIELDS SEARCHED (Int.CI.7)
P,A	US 6 443 680 B1 (BODI 3 September 2002 (200 * column 3, line 48 - * column 4, line 26 - * figures *	2-09-03) line 49 *	5-7		F16B B25B F16L
A	EP 1 072 802 A (YAMAH 31 January 2001 (2001 * the whole document	-01-31)	10,1	11	
A	US 3 316 796 A (YOUNG 2 May 1967 (1967-05-0 * column 3, line 28 - * figures *	2)	13,	18	
	The present search report has been				
	Place of search Berlin	Date of completion of the sear 20 October 20	1	Gna	Examiner
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		T : theory or p E : earlier pate after the fili D : document	T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons		
		& : member of	***************************************		

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 03 29 0849

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-10-2003

US 5519351 A 21-05-1996 JP 2540762 B2 JP 7134626 A WO 9410400 A 11-05-1994 SE 501447 C2 AT 182942 T DE 69325929 D1 DE 69325929 T2 DK 726989 T3 EP 0726989 A1 ES 2137271 T3 F1 952089 A NO 951677 A ,B, SE 9203252 A WO 9410400 A1 DE 1775919 A 04-11-1971 DE 1775919 A1 DE 1500813 B	09-10-1996 23-05-1995 15-08-1995 09-09-1995 24-02-2006 13-03-2006 21-08-1996 02-05-1995 03-05-1995 04-05-1996
AT 182942 T DE 69325929 D1 DE 69325929 T2 DK 726989 T3 EP 0726989 A1 ES 2137271 T3 FI 952089 A NO 951677 A ,B, SE 9203252 A WO 9410400 A1 DE 1775919 A 04-11-1971 DE 1775919 A1	15-08-1999 09-09-1999 24-02-2000 13-03-2000 21-08-1999 02-05-1999 03-05-1999 04-05-1999
DE 1775919 A 04-11-1971 DE 1775919 A1	
	04-11-1971 08-09-1971
US 2503189 A 04-04-1950 NONE	
US 6443680 B1 03-09-2002 NONE	
EP 1072802 A 31-01-2001 JP 3405932 B2	12-05-2003 22-08-2000 29-08-2000 17-08-2000 31-01-2003 17-08-2000 11-10-2003
US 3316796 A 02-05-1967 NONE	